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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,591	04/08/2004	Nicholas Leavy	1004-128	8114

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EXAMINER	
CHOUDHURY, AZIZUL Q	
ART UNIT	PAPER NUMBER
2445	
MAIL DATE	DELIVERY MODE
10/27/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/820,591	LEAVY ET AL.	
	Examiner	Art Unit	
	AZIZUL CHOUDHURY	2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,21-25,31,33,35 and 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,21-25,31,33,35 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

This office action is in response to the correspondence received on July 24, 2009.

Withdrawal of Finality

Applicant's arguments within the last correspondence have been deemed persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim1-15 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Network Intrusion Detection: Evasion, Traffic Normalization, and End-to-End Protocol Semantics," by Mark Handley and Vern Paxson in view of Hurst et al (US Patent No: 6,192,404), hereafter referred to as Handley and Hurst, respectively.

1. With regards to claims 1, 6, 11 and 21, Handley teaches through Hurst, a method of blocking attacks on a protected computer network, comprising: receiving a plurality of packets from a network, each said packet having a packet time to live (TTL) value and belonging to a corresponding packet flow *(equivalent to the normalizer receiving packets; see p. 6, right column, item 3, Handley)*; storing the

smallest packet TTL value received from each said corresponding packet flow; and prior to transmitting each said packet, setting said packet TTL value to said smallest packet TTL value received for said corresponding packet flow *(Handley discloses setting the TTL to the minimum; see p. 9, left column, TTL solution #3, Handley)*.

While Handley teaches setting the TTL to the minimum, Handley does not explicitly teach the TTL being set to a lower value. In Handley's disclosure it is taught how the TTL is set to the value that is set aside as the minimum value but, that does not always mean that the minimum value is lower than the previous TTL. In the same field of endeavor, Hurst also teaches network that uses TTL with packets. Within Hurst's disclosure, it is taught how the TTL of the packet and the minimum TTL are compared and the TTL is set to whichever is lower; see column 7, lines 27-31, Hurst. The setting of the TTL to a lower value prevents the packet from being cached too long (it is disposed of earlier). Therefore it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Handley with those of Hurst, to provide more up-to-date data.

2. With regards to claims 2, 7, 12 and 22, Handley teaches through Hurst, the method wherein said storing the smallest packet TTL value comprises: associating an epoch with said stored smallest packet TTL value; and if said epoch is greater than a predefined value, discarding said stored smallest packet

TTL value *(equivalent to the restoring TTL disclosed by Handley; see p. 9, left column, "Effect on semantics," Handley).*

3. With regards to claims 3, 8, 13 and 23, Handley teaches through Hurst, the method further comprising periodically resetting said stored smallest packet TTL value to a maximum value *(such steps are performed by the normalizer in Handley's disclosure; see p. 16, right column, item 21, Handley).*

4. With regards to claims 4, 9, 14 and 24, Handley teaches through Hurst, the method wherein said setting said packet TTL value comprises: determining if said corresponding packet flow is on an unrestricted list; and if said corresponding packet flow is on said unrestricted list, setting said packet TTL value to a maximum value *(Handley's design sets the TTL large to allow the packet to travel unrestricted by time; see p. 4, right column, 4th paragraph, Handley).*

5. With regards to claims 5, 10, 15 and 25, Handley teaches through Hurst, the method wherein said setting said packet TTL value comprises: determining if said corresponding packet flow is on an unrestricted list; and if said corresponding packet flow is on said unrestricted list, leaving said packet TTL value unchanged *(see p. 15, left column, first paragraph, Handley).*

6. The obviousness motivation applied to independent claims 1, 6, 11 and 21 are applicable towards their respective dependent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 31, 33, 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Network Intrusion Detection: Evasion, Traffic Normalization, and End-to-End Protocol Semantics," by Mark Handley and Vern Paxson in view of Hurst et al (US Patent No: 6,192,404) and in further view of McElligott (US PGPUB No: 2003/0009594), hereafter referred to as Handley, Hurst and McElligott, respectively.

7. With regards to claims 31, 33, 35 and 37, Handley teaches through Hurst and McElligot the method wherein storing the smallest packet TTL value received from each said corresponding packet flow includes, for each said packet: if that packet is the first packet received from said corresponding packet flow, then storing the packet TTL value of that packet as said smallest packet TTL value received from said corresponding packet flow *(McElligot teaches that the lowest TTL is stored within variable LowestTtlEchoReply. It is implicit that if the packet received is the first packet, the variable is empty and hence the first packet's TTL*

will be the lowest TTL and hence stored within the variable; see paragraph 55, McElligot. Also see Figure 7 wherein McElligot teaches the process by which determination is made as to whether to store the TTL within elements 106, 108 and 110); if that packet is not the first packet received from said corresponding packet flow and the packet TTL value of that packet is less than the stored smallest packet TTL value received from said corresponding packet flow, then storing the packet TTL value of that packet as said smallest packet TTL value received from said corresponding packet flow *(Handley teaches this within p. 9, left column, TTL solution #3 that the lower TTL is stored. In addition, McElligot teaches that if the packet's TTL is lower than that stored within the variable, the lower TTL is stored; see paragraph 55, McElligot. Also see Figure 7 wherein McElligot teaches the process by which determination is made as to whether to store the TTL within elements 106, 108 and 110)*; and if that packet is not the first packet received from said corresponding packet flow and the packet TTL value of that packet is greater than the stored smallest packet TTL value received from said corresponding packet flow, then refraining from storing the packet TTL value of that packet as said smallest packet TTL value received from said corresponding packet flow *(McElligot teaches that if the TTL is not the lowest, then it is not stored, as claimed; see Figure 7, elements 106, 108 and 110, McElligot)*.

While Handley teaches through Hurst, the storage of the lowest TTL as claimed, neither Handley nor Hurst explicitly teaches what happens when the

TTL is greater than that already stored. In the same field of endeavor, McElligot also teaches a network packet design. Within McElligot's disclosure it is taught how a determination is made whether the TTL is lower than that already stored, if not, it is not stored; see Figure 7, elements 106, 108 and 110, McElligot. The storage of the lowest TTL and refraining from storing greater TTL helps keep track of packets that are most current and hence identifies corresponding devices that are closest. Therefore it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Handley and Hurst with those of McElligot for the purpose of storing only the most current packets and hence also the closest devices; see paragraph 57, McElligot.

Response to Arguments

Applicant's arguments with respect to claims 1-15 and 21-25, 31, 33, 35, and 37 have been considered but are moot in view of the new ground(s) of rejection. In lieu of the argument that Handley fails to explicitly teach setting the TTL value to the smallest packet TTL value, the 102-type rejection has been replaced with a 103-type rejection using the Hurst prior art. Hurst teaches how the TTL of the packet and the minimum TTL are compared and the TTL is set to whichever is lower; see column 7, lines 27-31, Hurst. The setting of the TTL to a lower value prevents the packet from being cached too long (it is disposed of earlier).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIZUL CHOUDHURY whose telephone number is (571)272-3909. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C./
Examiner, Art Unit 2445

/VIVEK SRIVASTAVA/
Supervisory Patent Examiner, Art Unit 2445